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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/017,168

DATE: 12/31/2001  
TIME: 12:49:21

Input Set : A:\pto.vsk.txt  
Output Set: N:\CRF3\12312001\J017168.raw

ENTERED

3 <110> APPLICANT: The United States of America as Represented by the Secretary of the  
 4 Department of Health and Human Services, Centers for Disease Control and  
 5 Prevention  
 6 Liu, Hsi  
 7 Steiner, Bret  
 8 Berta, Rodes  
 10 <120> TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR DETECTING TREPONEMA PALLIDUM  
 12 <130> FILE REFERENCE: 6395-61666  
 C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/017,168  
 C--> 14 <141> CURRENT FILING DATE: 2001-12-14  
 14 <150> PRIOR APPLICATION NUMBER: PCT/US00/16425  
 15 <151> PRIOR FILING DATE: 2000-06-14  
 17 <150> PRIOR APPLICATION NUMBER: US 60/138,981  
 18 <151> PRIOR FILING DATE: 1999-06-14  
 20 <160> NUMBER OF SEQ ID NOS: 26  
 22 <170> SOFTWARE: PatentIn version 3.1  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 2945  
 26 <212> TYPE: DNA  
 27 <213> ORGANISM: Treponema pallidum  
 29 <220> FEATURE:  
 30 <221> NAME/KEY: CDS  
 31 <222> LOCATION: (919)..(2217)  
 32 <223> OTHER INFORMATION:  
 35 <220> FEATURE:  
 36 <221> NAME/KEY: misc\_feature  
 37 <223> OTHER INFORMATION: Subspecies: pallidum (Nichols strain)  
 40 <400> SEQUENCE: 1

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43	ctcctgccac ctgtacagt gtcaggttca tcgggaaatt gagggaaactg ttatccgcgc	120
45	tccccatctt ccgatactgg atcgggtgtcg gggggagtag gagtggggaa gcgtctgtgc	180
47	tgtatcgcbc tggtgatgcg cgcttctgg tacctcagtg cgaagggagt cagtatcgct	240
49	tacgtgcccgttccatcgca tgaaaaatcgca gcatgagcac agcagtgggc	300
51	gatacgctcc ttaacgcctt cttcgacgag ggaatggtagg ttacggcagt accgcccgggt	360
53	gtacacgacg gccagactat agcagaaaatt gctgcatgtt ttgaagtaat gccccattac	420
55	gcgttgttgg tgcagttca ttccgctcgat ctcctggggaaagcccc tacctccgt	480
57	gcccggcg cttggcttc agagagggttc cgtgtgtgt ggacattagt ggatttgcatt	540
59	acgcagcgcg cgtgtgtcta tgcgtgtgtc gccccatataca gggagaggtat tcccgtttct	600
61	gagtgttttgc acgtcggttac ccgttgttatt gcggagcagg caatttcgtt catacggttgc	660
63	ggcacgagca ccgatacagc cggagttcag ttatagaaaa tagggaaatac gtaagggtgc	720
65	tgcagcgtcg cttcagctgg gaggagtctt atgattaaac gcccacatgtt cgcaaaaagg	780
67	ggtgtcaaag gaagatctt cctggtagg gtgaacactg cgttcttagt gctttgttt	840
69	gcttctgtca cggccgttttggcgtgttgg gaagggaaatg cagaaattgg ccccccaggaa	900
71	agttttctgc aggacggc atg ttt gtg cgc agt gac atg ttc ccc aaa aac	951
72	Met Phe Val Arg Ser Asp Met Phe Pro Lys Asn	
73	1 5 10	
75	act gct gtt gaa att agc aac tta gaa aag aat gcc aag gct cag gca	999

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76	Thr Ala Val Glu Ile Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala			
77	15	20	25	
79	gtg gtt att ggg cac gca ggg atc ccc ggt ctt cta gtt agc ctt gca	1047		
80	Val Val Ile Gly His Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala			
81	30	35	40	
83	ccc gct gct gca gca cag ctt ggg att ggc gta tac caa gct gtg cgt	1095		
84	Pro Ala Ala Ala Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg			
85	45	50	55	
87	gta cgc gta cgt acc ttg ggt acc gtg cgc ggt ggg tct caa aca agt	1143		
88	Val Arg Val Arg Thr Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser			
89	60	65	70	75
91	cag gac gga ctg tcc ctt gca tct ttg ccg tcc cgt gtg cct gcg cgc	1191		
92	Gln Asp Gly Leu Ser Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg			
93	80	85	90	
95	ccc gcg cag cgt gat cct ctg tca tcc ccg ccg gca ggt cac act gta	1239		
96	Pro Ala Gln Arg Asp Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val			
97	95	100	105	
99	ccg gaa tat cgc gat acg gtt att ttc gat gac ccg cgt ttg gtt tcc	1287		
100	Pro Glu Tyr Arg Asp Thr Val Ile Phe Asp Asp Pro Arg Leu. Val Ser			
101	110	115	120	
103	cct ttg tct cgt gag gtg gag gac gcg ccg aag gta gtg gag ccg gcc	1335		
104	Pro Leu Ser Arg Glu Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala			
105	125	130	135	
107	tct gag cgt gag gga ggg gag cgt gag gtg gag gac gcg ccg aag gta	1383		
108	Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala Pro Lys Val			
109	140	145	150	155
111	gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtg gag gac	1431		
112	Val Glu Pro Ala Ser Glu Arg Glu Gly Glu Arg Glu Val Glu Asp			
113	160	165	170	
115	gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt	1479		
116	Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Glu Arg			
117	175	180	185	
119	gag gtg gag gac gcg ccg aag gta gtg gag ccg gcc tct gag cgt gag	1527		
120	Glu Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu			
121	190	195	200	
123	gga ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc	1575		
124	Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala			
125	205	210	215	
127	tct gag cgt gag gga ggg gag cgt gag gtg gag aac gtg ccg aag gta	1623		
128	Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asn Val Pro Lys Val			
129	220	225	230	235
131	gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt gag gtg gag gac	1671		
132	Val Glu Pro Ala Ser Glu Arg Glu Gly Glu Arg Glu Val Glu Asp			
133	240	245	250	
135	gcg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga ggg gag cgt	1719		
136	Ala Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Glu Arg			
137	255	260	265	
139	gag gtg gag gac gcg ccg aag gta gtg gag ccg gcc tct gag cgt gag	1767		
140	Glu Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu			

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141	270	275	280															
143	gga	ggg	gag	cgt	gag	gtg	gag	gac	gtg	ccg	aag	gta	gtg	gag	ccg	gcc	1815	
144	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala		
145	285		290		295													
147	tct	gag	cgt	gag	gga	ggg	gag	cgt	gag	gtg	gag	gac	gtg	ccg	aag	gta	1863	
148	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Lys	Val		
149	300		305		310		315											
151	gtg	gag	ccg	gcc	tct	gag	cgt	gag	gga	ggg	gag	cgt	gag	gtg	gag	gac	1911	
152	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp		
153	320		325		330													
155	gtg	ccg	aag	gta	gtg	gag	ccg	gcc	tct	gag	cgt	gag	gga	ggg	gag	cgt	1959	
156	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu	Gly	Gly	Glu	Arg		
157	335		340		345													
159	gag	gtg	gag	gac	gtg	ccg	aag	gta	gtg	gag	ccg	tct	gag	cgt	gag	2007		
160	Glu	Val	Glu	Asp	Val	Pro	Lys	Val	Val	Glu	Pro	Ala	Ser	Glu	Arg	Glu		
161	350		355		360													
163	gga	ggg	gag	cgt	gag	gtg	gag	gac	gtg	ccg	ggg	gta	gtg	gag	ccg	gcc	2055	
164	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Gly	Val	Val	Glu	Pro	Ala		
165	365		370		375													
167	tct	ggg	cat	gaa	gga	ggg	gag	cgt	gag	gtg	gag	gac	gtg	ccg	ggg	gta	2103	
168	Ser	Gly	His	Glu	Gly	Gly	Glu	Arg	Glu	Val	Glu	Asp	Val	Pro	Gly	Val		
169	380		385		390		395											
171	gtg	gag	ccg	gcc	tct	ggg	cat	gaa	gga	ggg	gag	cgt	gag	gtc	gtc	tct	2151	
172	Val	Glu	Pro	Ala	Ser	Gly	His	Glu	Gly	Gly	Glu	Arg	Glu	Val	Ala	Ser		
173	400		405		410													
175	cag	cat	acg	aag	cag	cca	tcc	cac	tcg	gtt	tcc	aac	tca	gct	ccc	aat	2199	
176	Gln	His	Thr	Lys	Gln	Pro	Ser	His	Ser	Val	Ser	Asn	Ser	Ala	Pro	Asn		
177	415		420		425													
179	cag	ttt	cg	aaa	ccc	tga	gggg	aaactc	ccctt	acgc	tcc	ctg	acc	tcc	ctg	accc	2247	
180	Gln	Phe	Arg	Lys	Pro													
181	430																	
183	atccgagtca	gaaattgtgg	ttccggagga	acagaaagga	cgtgcgc	atc	ccc	agg	gtat	cc	cc	cc	cc	cc	cc	cc	cc	2307
185	acccgagggt	gcgc	cacgtg	gact	gc	aacc	ttgg	taatac	tac	gtac	aga	ca	tt	tg	c	at	ct	2367
187	tcat	gac	gtc	atcc	agg	gtc	cc	acc	gtt	tt	gg	tt	aa	tt	gg	tt	tt	2427
189	agtggagcag	gac	atcc	cat	g	aa	gtt	aa	gg	ttt	cc	at	gc	gt	cc	tt	2487	
191	aaaagacgaa	cgc	ggc	gc	gg	tact	agag	aaaa	agg	ttt	gg	att	ca	agg	ac	gc	ct	2547
193	tct	aaaaa	ag	g	cg	at	gt	cc	tt	cc	tt	cc	tc	tc	tc	tc	tc	2607
195	cccc	cgaa	gg	gg	gc	ca	cc	gg	aa	cc	tt	gg	tt	cc	tt	cc	tt	2667
197	tct	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	2727
199	gag	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	2787
201	gt	cc	tt	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	2847
203	tcc	ac	gt	tcc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	2907
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209	<211>	LENGTH:	432															
210	<212>	TYPE:	PRT															
211	<213>	ORGANISM:	Treponema pallidum															
213	<220>	FEATURE:																
214	<221>	NAME/KEY:	misc_feature															

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215 <223> OTHER INFORMATION: Subspecies: pallidum (Nichols strain)  
217 <400> SEQUENCE: 2  
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223 Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His  
224 20 25 30  
227 Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala Ala  
228 35 40 45  
231 Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr  
232 50 55 60  
235 Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser  
236 65 70 75 80  
239 Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp  
240 85 90 95  
243 Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp  
244 100 105 110  
247 Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu  
248 115 120 125  
251 Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly  
252 130 135 140  
255 Gly Glu Arg Glu Val Glu Asp Ala Pro Lys Val Val Glu Pro Ala Ser  
256 145 150 155 160  
259 Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val  
260 165 170 175  
263 Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala  
264 180 185 190  
267 Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu  
268 195 200 205  
271 Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly  
272 210 215 220  
275 Gly Glu Arg Glu Val Glu Asn Val Pro Lys Val Val Glu Pro Ala Ser  
276 225 230 235 240  
279 Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala Pro Lys Val Val  
280 245 250 255  
283 Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Ala  
284 260 265 270  
287 Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu  
288 275 280 285  
291 Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly  
292 290 295 300  
295 Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser  
296 305 310 315 320  
299 Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val  
300 325 330 335  
303 Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu Val Glu Asp Val  
304 340 345 350  
307 Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly Gly Glu Arg Glu  
308 355 360 365  
311 Val Glu Asp Val Pro Gly Val Val Glu Pro Ala Ser Gly His Glu Gly

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312	370	375	380	
315	Gly	Glu Arg Glu Val Glu Asp Val Pro Gly Val Val Glu Pro Ala Ser		
316	385	390	395	400
319	Gly His Glu Gly Gly Glu Arg Glu Val Ala Ser Gln His Thr Lys Gln			
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328	<211>	LENGTH: 699		
329	<212>	TYPE: DNA		
330	<213>	ORGANISM: Treponema pallidum		
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333	<221>	NAME/KEY: CDS		
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335	<223>	OTHER INFORMATION:		
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346	1	5	10	15
348	agc aac tta gaa aag aat gcc aag gct cag gca gtg gtt att ggg cac			96
349	Ser Asn Leu Glu Lys Asn Ala Lys Ala Gln Ala Val Val Ile Gly His			
350		20	25	30
352	gca ggg atc ccc ggt ctt cta gtt agc ctt gca ccc gct gct gca gca			144
353	Ala Gly Ile Pro Gly Leu Leu Val Ser Leu Ala Pro Ala Ala Ala			
354		35	40	45
356	cag ctt ggg att ggc gta tac caa gct gtg cgt gta cgc gta cgt acc			192
357	Gln Leu Gly Ile Gly Val Tyr Gln Ala Val Arg Val Arg Val Arg Thr			
358		50	55	60
360	ttg ggt acc gtg cgc ggt ggg tct caa aca agt cag gac gga ctg tcc			240
361	Leu Gly Thr Val Arg Gly Gly Ser Gln Thr Ser Gln Asp Gly Leu Ser			
362	65	70	75	80
364	cgt gca tct ttg ccg tcc cgt gtg cct gcg cgc ccc gcg cag cgt gat			288
365	Leu Ala Ser Leu Pro Ser Arg Val Pro Ala Arg Pro Ala Gln Arg Asp			
366		85	90	95
368	cct ctg tca tcc ccg ccg gca ggt cac act gta ccg gaa tat cgc gat			336
369	Pro Leu Ser Ser Pro Pro Ala Gly His Thr Val Pro Glu Tyr Arg Asp			
370		100	105	110
372	acg gtt att ttc gat gac ccg cgt ttg gtt tcc cct ttg tct cgt gag			384
373	Thr Val Ile Phe Asp Asp Pro Arg Leu Val Ser Pro Leu Ser Arg Glu			
374		115	120	125
376	gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct gag cgt gag gga			432
377	Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser Glu Arg Glu Gly			
378		130	135	140
380	ggg gag cgt gag gtg gag gac gtg ccg aag gta gtg gag ccg gcc tct			480
381	Gly Glu Arg Glu Val Glu Asp Val Pro Lys Val Val Glu Pro Ala Ser			
382		145	150	155
				160

VERIFICATION SUMMARY  
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L:14 M:270 C: Current Application Number differs, Replaced Current Application No  
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date